CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application

1. (Canceled).

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (Canceled).

6. (Canceled).

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A method of scaling an image comprising:

incrementing a current phase location within a scaling cycle by a first variable to obtain a
first adjusted value, the first variable indicative of a number of input pixels in the
scaling cycle, wherein the scaling cycle represents a scaling operation that is
repeated, such that each scaling cycle accesses a common set of filter phases to
scale the number of input pixels to obtain a number of output pixels, where the
number of input pixels in the scaling cycle is equal to an input resolution divided
by a GCD and the number of output pixels in the scaling cycle is equal to an
output resolution divided by the GCD, where the GCD is the greatest common
divisor of the input resolution and output resolution;

decrementing, in response to the first adjusted value being greater than a second variable,
the first adjusted value by one or more times the second variable indicative of the
number a number of output pixels in the scaling cycle to obtain a second adjusted
value less than the second variable; and

determining an index value to access a coefficient set by right shifting the second
adjusted value a predetermined amount.

11. (Original) The method of claim 10 further comprising:

accessing the coefficient set based on the index value; and

determining a scaled pixel value based upon the coefficient set.

12. (Previously Presented) The method of claim 10 further comprising:

when the index value is within a first range, accessing the coefficient set from a mirror

location;

when the index value is within a second range, accessing the coefficient set from a direct

location; and

determining a scaled pixel value based upon the coefficient set.

13. (Original) The method of claim 12 wherein determining the scaled pixel value

further comprises reversing the coefficients when the coefficient set is accessed from a mirror

location.

14. (Original) The method of claim 10 further comprising:

receiving the predetermined amount from a control word.

15. (Original) The method of claim 10 further comprising:

determining the predetermined amount from a control word

16. (Currently Amended) A video scaler comprising:

a means for incrementing a current phase location within a scaling cycle by a first

variable to obtain a first adjusted value, the first variable indicative of a number of

input pixels in the scaling cycle, wherein the scaling cycle represents a scaling

operation that is repeated, such that each scaling cycle accesses a common set of

filter phases to scale the number of input pixels to obtain a number of output

pixels, where the number of input pixels in the scaling cycle is equal to an input

resolution divided by a GCD and the number of output pixels in the scaling cycle

is equal to an output resolution divided by the GCD, where the GCD is the

greatest common divisor of the input resolution and output resolution;

a means for decrementing, in response to the first adjusted value being greater than a

second variable, the adjusted value by one or more times the second variable

indicative of the number a number of output pixels in the scaling cycle to obtain a

second adjusted value less than the second variable; and

a means for determining an index value to access a coefficient set by right shifting the
second adjusted value a predetermined amount.

17. (Currently Amended) A system comprising:

an data processor for executing instructions; and

a memory for storing the instructions, the instructions to:

increment a current phase location within a scaling cycle by a first variable to obtain a
first adjusted value, the first variable indicative of a number of input pixels in the
scaling cycle, wherein the scaling cycle represents a scaling operation that is
repeated, such that each scaling cycle accesses a common set of filter phases to
scale the number of input pixels to obtain a number of output pixels, where the
number of input pixels in the scaling cycle is equal to an input resolution divided
by a GCD and the number of output pixels in the scaling cycle is equal to an
output resolution divided by the GCD, where the GCD is the greatest common
divisor of the input resolution and output resolution;

decrement, in response to the first adjusted value being greater than a second
variable, the adjusted value by one or more times the second variable
indicative of the number a number of output pixels in the scaling cycle to
obtain a second adjusted value less than the second variable; and

determine an index value to access a coefficient set by right shifting the second
adjusted value a predetermined amount.

18. (Currently Amended) A computer readable media storing control information for
implementing a plurality of operations, the operations to:

increment a current phase location within a scaling cycle by a first variable to obtain a
first adjusted value, the first variable indicative of a number of input pixels in the
scaling cycle, wherein the scaling cycle represents a scaling operation that is
repeated, such that each scaling cycle accesses a common set of filter phases to
scale the number of input pixels to obtain a number of output pixels, where the
number of input pixels in the scaling cycle is equal to an input resolution divided
by a GCD and the number of output pixels in the scaling cycle is equal to an
output resolution divided by the GCD, where the GCD is the greatest common
divisor of the input resolution and output resolution;

decrement, in response to the first adjusted value being greater than a second variable, the adjusted value by one or more times the second variable indicative of ~~a number~~ the number of output pixels in the scaling cycle to obtain a second adjusted value less than the second variable; and

determine an index value to access a coefficient set by right shifting the second adjusted value a predetermined amount.

19. (New) A method comprising:

storing X sets of coefficients representing $2*X+1$ available filter phases, where X is a positive integer; and

determining, based on a number of output pixels per scaling cycle and the number of available phases, a number of used filter phases N used during a scaling cycle, wherein the scaling cycle represents a scaling operation that is repeated, such that each scaling cycle accesses a common set of N filter phases to scale a number of input pixels to obtain a number of output pixels, where the number of input pixels in the scaling cycle is equal to an input resolution divided by a GCD, the number of output pixels in the scaling cycle is equal to an output resolution divided by the GCD, where the GCD is the greatest common divisor of the input resolution and output resolution, and N is less than $2*X+1$.

20. (New) The method of claim 19 where in determining the number of used phases further comprises right shifting the number of output pixels until a value equal to the number of output pixels right shifted S times is less than the number of available filter phases.

21. (New) The method of claim 19 further comprising:

selecting, based on the number of used phases N, N filter phases of the $2*X+1$ available filter phases to scale the number of input pixels per cycle.